

CLAIMS

1. A device with a fuel cell stack (1) and an external cooling device, so arranged that the heat from the fuel cells is transferred to the cooling device mainly by thermal radiation.

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2. Device according to claim 1, in which the cooling device is formed from tubes (2), whereby the tubes are arranged in a supply space (7) or an exhaust space (3) for fuel.

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3. Device according to one of the preceding claims, in which the external cooling device and the fuel cell stack are arranged together in a housing.

15 4. Device according to one of the preceding claims, in which an electrode of a fuel cell is separated from an adjacent passage or space for the supply of a working medium by a perforated plate (9), in which the size and/or density of the holes increases from a midline (13) to the edge and the mid-line runs parallel to the flow direction (14) of the working medium.

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5. Device according to one of the preceding claims, in which the size and/or density of the holes at the edge is at least about 5%, preferably about 20% greater than the size and/or density of the holes close to the midline.

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6. Method of operating a device with the features according to one of the preceding claims, in which the fuel cell stack is cooled externally by evaporation of a cooling medium in the adjacently-arranged cooling device, whereby the heat from the fuel cells is transferred to the cooling device mainly through thermal radiation.

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